REMARKS

Summary of the Office Action

Claims 1, 3-9, 11-19, and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* (U.S. Patent No. 5,303,074) in view of *Henley* (U.S. Patent No. 5,459,410).

Claims 21 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over *Salisbury* in view of *Henley* and *Baum et al.* (U.S. Patent No. 5,407,710). At paragraph 3, the Final Office Action rejects claims 21 and 26 without citing *Henley*. However, Applicant assumes that the Final Office Action also intends to rely upon *Henley* in the rejection of claims 21 and 26, since it mentions that claims 21 and 26 are rejected as applied to claims 1, 3-9, 11-19 and 22-24. If Applicant's above-mentioned understanding and assumption are inaccurate, further clarification is requested with the next office communication.

Summary of the Response to the Office Action

Applicant has amended claims 9, 12, and 13 and has added claim 27 to further define the invention. Accordingly, claims 1, 3-9, 11-19, 21-24, 26, and 27 are currently pending.

Claim Rejections Under 35 U.S.C. §103(a)

Claims 1, 3-9, 11-19, and 22-24 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Salisbury (US 5,303,074) in view of Henley (US 5,459,410), and claims 21 and 26 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Salisbury in view of Henley and Baum et al. (US 5,407,710). Applicant respectfully traverses these rejections for at least the following reasons.

Independent claims 1 and 9 both recite a repair structure for a liquid crystal display including at least a repair pattern electrically isolated from the second segment and electrically connecting the first segment with the third segment of the data line, wherein the repair pattern bypasses to pixel electrodes adjacent to the data (or scan) line and "has a portion overlapping the pixel electrodes." Independent claim 17 recites a method of repairing a liquid crystal display having a plurality of scan lines and data lines which are arranged to cross each other including at least a step of "forming an insulating material to fill portions between the first and second segments of the data lines and between the second and third segments of the data lines." Similarly, independent claim 22 recites a method of repairing a liquid crystal display having a plurality of scan lines and data lines which are arranged to cross each other including at least a step of "forming an insulating material to fill portions between the first and second segments of the data lines and between the second and third segments of the scan lines."

The Final Office Action admits that "Salisbury does not expressly disclose that the repair pattern bypasses to pixel electrodes adjacent to the data line and has a portion overlapping the pixel electrodes," and "forming an insulating material to fill the portions between the second segment and the first segment of the data lines (or the scan lines) and between the second segment and the third segment of the data lines (or the scan lines)." Thus, the Final Office Action relies upon Henley for allegedly teaching a conductive bridge 88 such that "when forming the conductive bridge, the repair pattern **must** have a portion of the conductive bridge which bypasses to pixel electrodes adjacent to the data line" and "the conductive bridge **must** have a portion overlapping the pixel electrodes"

(emphasis added). In addition, the Final Office Action relies upon Henley for apparently asserting that "[b]ecause the gate line (scan line) and the data line form the pixel region, as shown in Figs. 6 and 14, and the repair pattern is a conductive bridge across the pixel region as shown in Fig. 12." Furthermore, the Final Office Action asserts that "Henley indicates (col.2, lines 15-18) such repair structure improving the production yields, especially, for assembling high density active matrix LCD panels."

As a result, the Final Office Action alleges that it would have been "obvious to those skilled in the art at the time the invention was made to arrange a repair pattern as claimed in claims **1** and **9** for improving the production yields of the high density active matrix LCD display."

However, Applicant respectfully asserts that the Final Office Action's alleged motivation to modify Salisbury (i.e., arranging a repair pattern as claimed in claims 1 and 9 for improving the production yields of the high density active matrix LCD display) is neither taught nor suggested anywhere in Henley. As clearly shown in FIGs. 12a-12c and discussed at col. 11, line 65 to col. 12, line 6 of Henley, the conductive bridge 88 is formed to contact areas 84 and 86 without shorting to data line 13. However, Applicant respectfully asserts that Henley is silent with respect to overlapping adjacent pixel electrodes. Furthermore, Applicant respectfully asserts that FIGs. 6 and 14 of Henley are merely schematic circuit diagrams that neither teach nor suggest "the repair pattern is a conductive bridge across the pixel region," as alleged by the Final Office Action. Accordingly, Applicant respectfully asserts that Henley is completely silent with respect to the repair pattern bypasses to pixel electrodes adjacent to the data line and "has a portion

overlapping the pixel electrodes," as recited by independent claims 1 and 9, and hence dependent claims 3-8 and 11-16.

The Final Office Action further admits that Salisbury does not expressly disclose "forming an insulating material to fill the portions between the second segment and the first segment of the data lines (or the scan lines) and between the second segment and the third segment of the data lines (or the scan lines)." In addition, the Final Office Action apparently relies upon reasoning that "[a]though Salisbury does not expressly discloses forming an insulating material to fill the portions between the second segment and the first segments of the data lines (or scan lines) and between the second segment and the third segments of the data lines (or scan lines), but to insulate the two conductive segments using insulating material that is the same principle as to insulate the repair lines and the transmission lines as Salisbury discloses using silicon oxide or silicon nitride, i.e., insulating material, to insulate the two conductive lines, and this is a conventional technique filling an insulating material between the two conductive segments in order to insulate the two conductive segments, because the insulating material has a reliable insulating property."

As a result, the Final Office Action alleges that it would have been "obvious to those skilled in the art at the time the invention was made to fill an insulating material into the portions between the segments of the data lines or scan lines as claimed in claims **17** and **20** in order to obtain a reliable insulation between the conductive segments."

However, Applicant respectfully asserts that the Final Office Action's alleged reasoning (i.e., motivation) to modify Salisbury (i.e., electrically insulating adjacent data or scan line segments) is neither taught nor suggested anywhere in Salisbury. As discussed at

col. 6, lines 36-45 of Salisbury, "the associated repair line allows the two lines to be electrically coupled without the device needing to be disassembled to make the coupling." Moreover, Salisbury discloses (col. 3, lines 27-30) that "[i]t is another object of the present invention to provide a thin film electronic device structure that readily provides for repair of the device **after** it has been fabricated" (emphasis added). Accordingly, the device disclosed by Salisbury is designed to be repaired without any additional fabrication processing, i.e., deposition of conductive/insulative materials. Thus, Applicant respectfully asserts that the Final Office Actions' alleged reasoning is directly contrary to the disclosure of Salisbury, and as such, one of ordinary skill in the art would not re-process the device of Salisbury to deposit insulating material within the severence points 160A and 160B in FIG. 2B of Salisbury.

Applicant further asserts that the Final Office Action does not rely on Baum et al. to remedy the deficiencies of Salisbury and/or Henley. Moreover, Applicant respectfully asserts that Baum et al. cannot remedy the deficiencies of Salisbury and/or Henley.

Accordingly, Applicant respectfully notes that MPEP 2143.01 instructs that "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention, where there is some teaching, suggestion or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." Moreover, MPEP 2143 instructs that "[t]he mere fact that references can be combined or modified does not render the resultant combination obvious unless that prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990)."

Thus, Applicant respectfully asserts that the Office Action has not provided any motivation for one of ordinary skill in the art to modify the teachings of Salisbury with the teachings of Henley and/or Baum et al. to achieve the invention of independent claims 1, 9, 17, and 22, and hence dependent claims 3-8, 11-16, 18, 19, 21, 23, 24, and 26.

Since the Office Action fails to meet the requirements for establishing a *prima facie* case of obviousness as to independent claims 1, 9, 17, and 22, claims 1, 9, 17, and 22 are not obvious. Further, since claims 2-8, 11-16, 18, 19, 21, 23, 24, and 26 depend from claims 1, 9, 17, and 22, and incorporate all the features of claims 1, 9, 17, and 22, claims 2-8, 11-16, 18, 19, 21, 23, 24, and 26 are not obvious at least for at least the above reasons for which independent claims 1, 9, 17, and 22 are not obvious. Thus, Applicant respectfully requests that the rejections of claims 1, 3-9, 11-19, 21-24, and 26 under 35 U.S.C. § 103(a) be withdrawn.

Conclusion

In view of the foregoing, Applicant respectfully requests the Examiner's reconsideration and reexamination of the application and the timely allowance of the pending claims. Should there remain any questions or comments regarding this response or the application in general, the Examiner is urged to contact the undersigned at the number listed below.

If there are any fees due in connection with the filing of this response, please charge the fees to our Deposit Account No. 50-0310. If a fee is required for an extension

of time under 37 C.F.R. § 1.136 not accounted for above, such extension is requested and the fee should also be charged to our Deposit Account.

Respectfully submitted,

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